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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/593,620

03/23/2007

Peter R. Jepson

CH7704US/CH03-05/CH04-07U

1530

23416 7590 09/25/2009
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EXAMINER

TOLAN, EDWARD THOMAS

ART UNIT

PAPER NUMBER

3725

MAIL DATE

DELIVERY MODE

09/25/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/593,620	Applicant(s) JEPSON, PETER R.	
	Examiner EDWARD TOLAN	Art Unit 3725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 1-27 and 32-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group II claims 28-31 is acknowledged. Group II claims have technical differences of collar attachment by welding that are not features in Groups I and IV. Group I claims have technical differences of first and second stage dies comprising flat dies and sheetbar dies, grain size and workpiece aspect ratio that are features that are not present in Groups II and IV. Group IV claims have technical differences of die determination and die dimension control. Although the claims may have some common known steps of rolling and forging the Group I claims are a concept for making a pot (cooking pot, container etc.) while Group II claims are a concept for making a sputtering target and Group IV claims are a concept for making a plate for generic further processing. The restriction is made FINAL.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 28-31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jepson et al. (2002/0112789) in view of Kulkarni et al. (6,283,357) and further in view of (6,142,001). Jepson discloses a process for manufacturing a sputtering target (11) by steps of (a) cutting an ingot of tantalum into a first workpiece (12), (b) forging the

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workpiece ([0026], line 9), (c) annealing ([0026], line 12), (d) forging back ([0026], line 16), (e,f,h) forging back ([0026], lines 35-37)), (g,i) annealing ([0026], line 32 and [0027]) and (j) rolling ([0028]). Jepson discloses ([0026], lines 35-37, [0027] and [0029]) that forging and annealing steps are repeated as necessary within method steps (e-i) in order to prepare the workpiece for rolling. Jepson does not disclose deep drawing and attaching a collar to the target. Kulkarni teaches (column 3, lines 23-30) that it is known to deep draw a rolled target plate produced by a pressing, annealing and rolling operation. The plate (10) is bonded with cladding (14) and formed by deep drawing (column 4, lines 47-60). A collar (22) is welded to the deep drawn target (column 4, lines 61-67). It would have been obvious to one skilled in the art at the time of invention to deep draw the target of Jepson as taught by Kulkarni and attach a collar thereto in order to form a known cup shape magnetron sputtering target.

Jepson in view of Kulkarni does not disclose finite element workpiece modeling. Collier teaches (column 3, lines 14-20) that it is known to use finite element techniques to model a billet (1) prior to drawing the billet in a die. It would have been obvious to one skilled in the art at the time of invention to model the workpiece of Jepson in view of Kulkarni as taught by Collier in order to determine a target size during processing.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDWARD TOLAN whose telephone number is (571)272-4525. The examiner can normally be reached on M-F.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Edward Tolan/
Primary Examiner, Art Unit 3725

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